

**Research  
of  
Anomalous Mental Phenomena**

**Author:**

**Edwin C. May, Ph.D.**

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**Submitted by:**

**Science Applications International Corporation**

**Cognitive Sciences Laboratory**

## I OBJECTIVE

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The objective of this document is to provide a periodic status report for research and analysis of anomalous mental phenomena.\*

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\* This report constitutes the deliverable DI-MGHT-80227 under contract number MDA908-91-C-0037.

## II PROGRESS REPORT

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### 1. Technical Milestones

In this section, we provide highlights of the technical progress during the period between 4 February and 30 September 1991. Please see the Interim Technical Report for the same time period for complete details.

#### 1.1 Clln 1: Research

The primary task under this clin was to provide a comprehensive, long-term research plan. That plan was delivered to the sponsor as of June 1991. The remaining activities included:

- Acquiring computer hardware and software.
- Obtaining subcontracts with Psychophysical Research Laboratories, The Lucidity Institute, and Edinburgh University.
- Designing a protocol for the magnetoencephalograph (MEG) experiment.
- Outlining protocols for experiments that explore (1) target dependency, (2) anomalous cognition (AC) in lucid dreams, and error-correcting coding techniques for AC.

In addition, we created three separate oversight committees: (1) Policy, (2) Scientific, and (3) Institutional Review (i.e., human use), and as of 30 September 1991, the Scientific Oversight Committee is fully functional.

#### 1.2 Clln 3: Support Activity

Under this clin, we attended the 1991 annual meeting of the Parapsychological Association in Heidelberg, Germany and the Parapsychology Foundation annual meeting in Dublin, Ireland. Other activities included:

- Assessing certain physiology results quoted in the foreign literature by designing a MEG protocol for collecting data.
- Numerous visits by SAIC personnel to the sponsor's facility to provide technical consultation and advice on protocol design.
- Recommending hardware and software for a sponsor's database (i.e. Sybase®).
- Designing a preliminary database schema for Sybase that can track specific research disciplines.

#### 1.3 Clln 4: Hardware and Software

As of this reporting period, one of the three Sun Microsystem's workstations, the QMS laser printer, and various peripherals have been delivered and are in operation. All the analysis, documentation, and database software are operational.

The target analysis hardware and software has not yet been delivered.

#### **1.4 Clin 5: Support Activity (Option 1)**

The primary activity under this clin was to conduct preliminary trials for assessing the physiology results (i.e., see clin 3 discussion above) using the MEG. Sixteen individuals were tested for their individual responses to direct light stimuli. Qualitative inspection of the data show directions for further research, in that certain individuals appear to demonstrate robust central nervous system responses to direct light stimuli. The question is, "Are these individuals good AC receivers?"

### **2. Changes**

No changes to the Cognitive Sciences Laboratory, method of operation, management, or milestones occurred during this reporting period.

### **3. Problems**

We delayed the subcontracts and start of work on SOW 6.2 and 6.3 as the result of a delay in the contracting cycle with the sponsor's organization. While causing some accelerated activity, the delay has not significantly impacted the progress to date.

## 4. Financial summary

### 4.1 Total Project Statistics (\$1,442.057 k)

Figure 1 shows that the overall project expenditures are near the ideal linear curve. The actual spending curve falls below the linear model. This can be accounted for by the fact that the subcontract vouchers and the expected equipment purchases are not yet included in these figures.

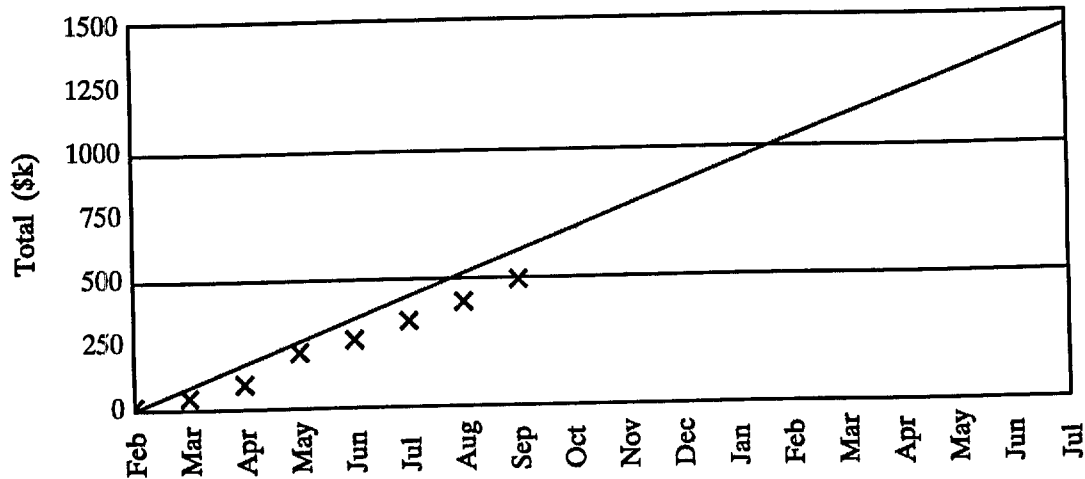


Figure 1. Financial Performance for Total Project

Table 1.

Total Project Financial History

Date	Expenditure (\$k)
1 March 1991	\$6.812
29 March 1991	\$41.632
26 April 1991	\$91.944
24 May 1991	\$211.899
21 June 1991	\$258.388
19 July 1991	\$328.615
16 August 1991	\$399.904
13 September 1991	\$484.452

## 4.2 CLIN 1 — Research (\$1,062.760 k)

We focused much of the work up to 30 September upon the tasks for clins 3 and 5; thus, the expenditures fall below the linear model.

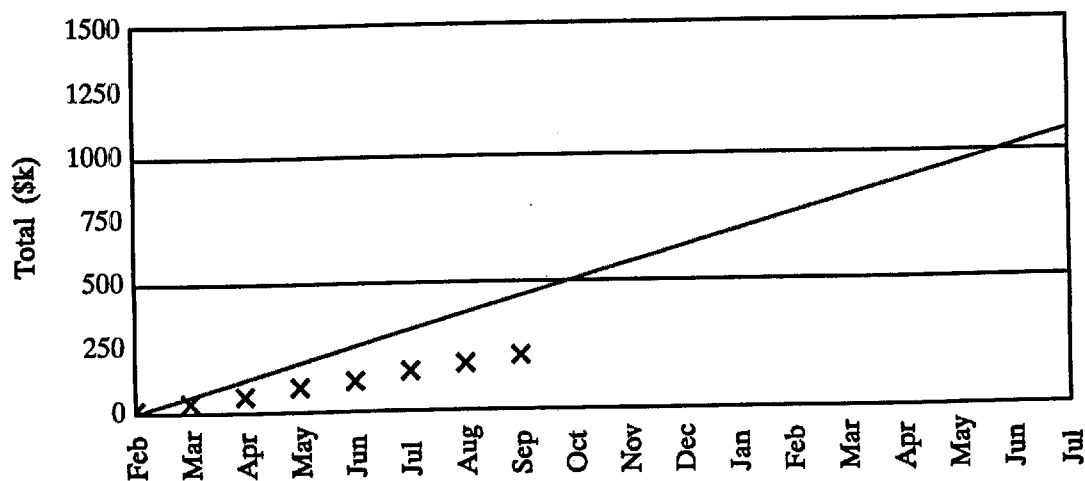


Figure 2. Financial Performance for SOW 6.1, 6.2, 6.3

Table 1.

Total Project Financial History

Date	Expenditure (\$k)
1 March 1991	\$6.812
29 March 1991	\$34.528
26 April 1991	\$60.232
24 May 1991	\$92.813
21 June 1991	\$115.303
19 July 1991	\$151.531
16 August 1991	\$177.491
13 September 1991	\$484.452

### 4.3 CLIN 3 — Support Activity (\$195.298 k)

Figure 3 shows that the financial histories for the tasks within clin 3 are as expected. The final accounting for clin 3 will be available after all outstanding charges have been processed.

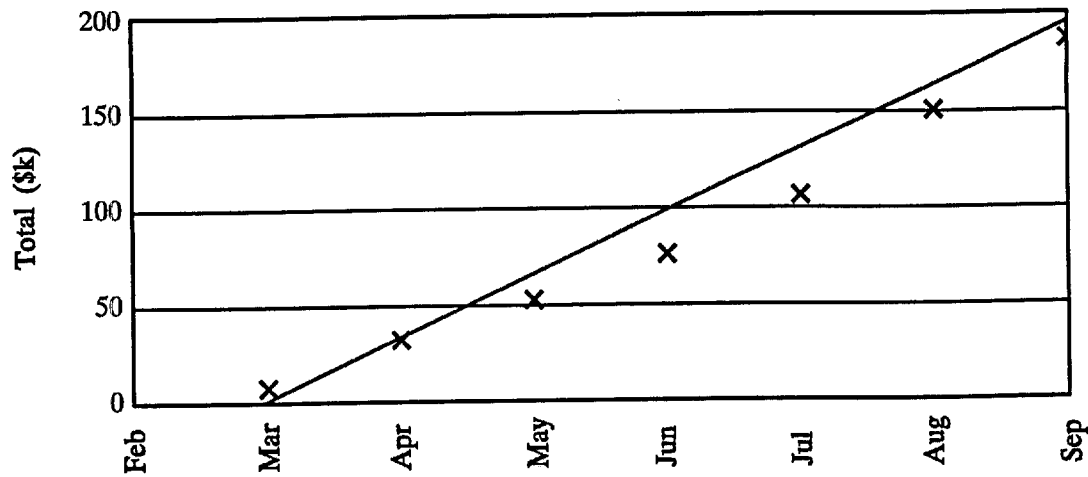


Figure 3. Financial Performance for SOW 6.4

Table 1.

Total Project Financial History

Date	Expenditure (\$k)
1 March 1991	---
29 March 1991	\$7.103
26 April 1991	\$31.712
24 May 1991	\$52.137
21 June 1991	\$75.586
19 July 1991	\$106.145
16 August 1991	\$150.383
13 September 1991	\$187.522

#### 4.4 CLIN 4 — Hardware and Software (\$134.584 k)

Clin 4 is an equipment line item, and Figure 4 shows its financial histories. We expect to process all equipment during the next reporting period and then anticipate little further activity for this clin.

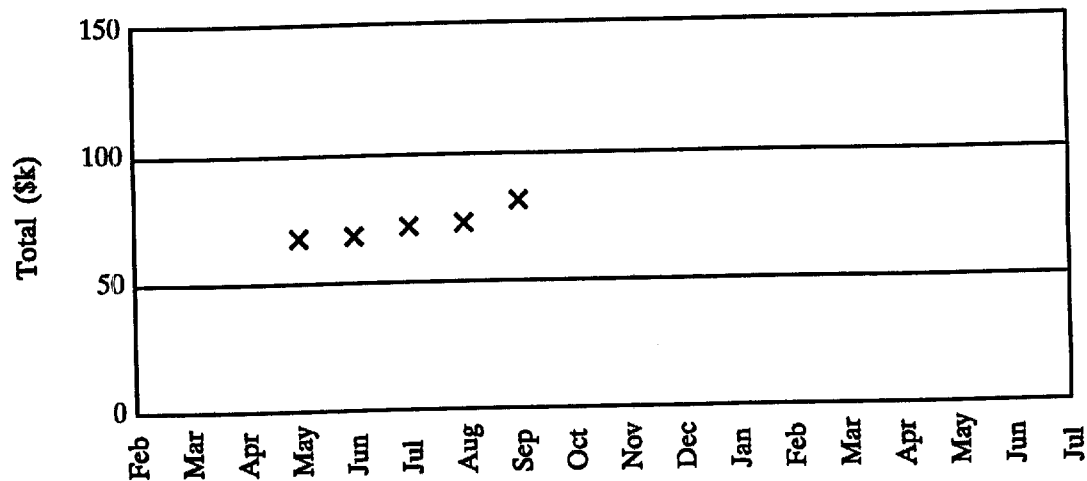


Figure 4. Financial Performance for Equipment, Hardware, and Software

Table 1.

Total Project Financial History

Date	Expenditure (\$k)
1 March 1991	---
29 March 1991	---
26 April 1991	---
24 May 1991	\$66.949
21 June 1991	\$67.499
19 July 1991	\$70.938
16 August 1991	\$72.028
13 September 1991	\$80.617

#### 4.5 CLIN 5 — Support Activity, Option 1 (\$49.415)

Option 1 was not initiated until 28 June 1991. As of 13 September 1991, a total of \$6.546 K has been expended on this clin. This figure does not reflect the activity pursued during the latter part of September at a national laboratory. The projected figures to close the activity on this clin are as expected, and the final figures will be available as soon as all the outstanding charges have been processed.